CLAIMS:

1. A loudspeaker provided with a chassis, a movable body, a resilient suspension for guiding the movable body with respect to the chassis along a translation axis, and an electric actuator for driving the movable body along the translation axis, which movable body has a diaphragm structure comprising a central dome-shaped diaphragm and a cone-shaped diaphragm concentrically arranged with respect to the dome-shaped diaphragm, which cone-shaped diaphragm has a back portion and a front portion which is wider than the back portion, wherein both diaphragms are attached to each other near the back portion of the cone-shaped diaphragm, the cone-shaped diaphragm enveloping the dome-shaped diaphragm, and wherein the resilient suspension comprises a resilient element connecting the diaphragm structure to the chassis near the back portion of the cone-shaped diaphragm, and a further resilient element connecting the diaphragm structure to the chassis near the front portion of the cone-shaped diaphragm.

2. A loudspeaker as claimed in claim 1, wherein the electric actuator comprises a stationary part secured to the chassis and a translatable part secured to the dome-shaped diaphragm.

3. A loudspeaker as claimed in claim 1, wherein the back portion of the cone-shaped diaphragm includes an inner circumferential edge to which an outer circumferential rim of the dome-shaped diaphragm is connected.

4. A loudspeaker as claimed in claim 3, wherein the resilient element of the resilient suspension includes an inner circumferential brim which is connected to the inner circumferential edge of the cone-shaped diaphragm and/or the outer circumferential rim of the dome-shaped diaphragm.

5. A loudspeaker as claimed in claim 2, wherein the stationary part includes a magnetic yoke with a permanent magnet and the translatable part includes a coil support with

a voice coil, which coil extends in an air gap of the magnetic yoke and has a coil axis coinciding with the translation axis of the movable body.

6. A diaphragm structure presenting the features of the diaphragm structure disclosed in the claims 1 to 3 and thus constructed and evidently intended for use in the loudspeaker as claimed in any one of the preceding claims.

7. A loudspeaker unit comprising the loudspeaker as claimed in any one of claims 1 to 5 and comprising a housing accommodating the loudspeaker.

NEW CLAIM 1:

AMENDED CLAIMS

[received by the International Bureau on 10 January 2005 (10.01.2005); original claim 1 amended; remaining claims unchanged (1 page)]

1. A loudspeaker provided with a chassis, a movable body, a resilient suspension for guiding the movable body with respect to the chassis along a translation axis, and an electric actuator for driving the movable body along the translation axis, which movable body has a diaphragm structure comprising a central dome-shaped diaphragm and a cone-shaped diaphragm concentrically arranged with respect to the dome-shaped diaphragm, which cone-shaped diaphragm has a back portion and a front portion which is wider than the back portion, wherein a rim of the dome-shaped diaphragm is attached to a back edge of the back portion of the cone-shaped diaphragm, the cone-shaped diaphragm enveloping the dome-shaped diaphragm, and wherein the resilient suspension comprises a resilient element connecting the diaphragm structure to the chassis near the back edge of the back portion of the cone-shaped diaphragm, and a further resilient element connecting the diaphragm structure to the chassis near the front portion of the cone-shaped diaphragm.